Connecting with Go

This guide walks you through setting up a Go application to connect to a TimescaleDB database, using the PostgreSQL-compatible `lib/pq` driver, and running a basic query to verify the connection.

Variables

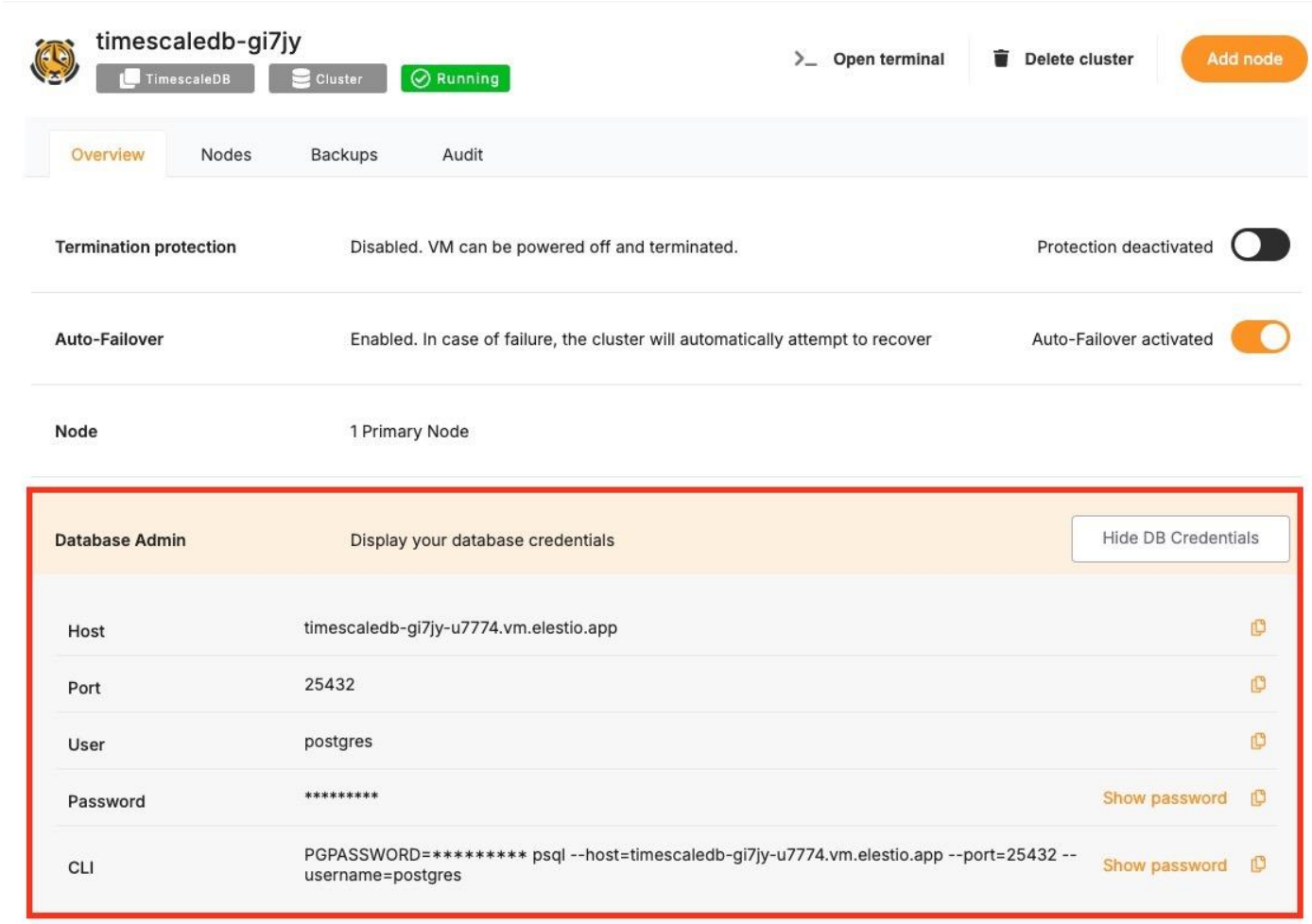
To connect to a TimescaleDB database, you only need **one environment variable** — the connection URI. This URI contains all the necessary information like username, password, host, port, and database name.

Variable	Description	Purpose
`TIMESCALE_URI`	Full TimescaleDB (PostgreSQL-compatible) connection string from the Elestio service overview	Provides all credentials and connection details in a single URI

A typical URI format looks like:

```
postgresql://<USER>:<PASSWORD>@<HOST>:<PORT>/<DATABASE>
```

You can find the details needed in the URI from the **Elestio service overview** details. Copy and replace the variables carefully in the URI example provided above.



Prerequisites

- **Install Go**
  - Check if Go is installed:

```
go version
```

  - If not, download and install Go: https://go.dev/dl/
- **Install pq Driver**

```
go get github.com/lib/pq
```

Code

Once all prerequisites are set up, create a new file named `main.go` and add the following code, and replace the `TIMESCALE_URI` with actual link or in environment setup as you wish:

```
package main

import (
	"database/sql"
	"fmt"
	"log"
	"os"

	_ "github.com/lib/pq"
)

func getDBConnection(connStr string) (*sql.DB, error) {
	db, err := sql.Open("postgres", connStr)
	if err != nil {
		return nil, fmt.Errorf("failed to open database connection: %v", err)
	}

	if err := db.Ping(); err != nil {
		return nil, fmt.Errorf("failed to ping database: %v", err)
	}

	return db, nil
}

func main() {
	// Get the TimescaleDB connection string from environment variable
	connStr := os.Getenv("TIMESCALE_URI")
	if connStr == "" {
		log.Fatal("TIMESCALE_URI environment variable not set")
	}

	db, err := getDBConnection(connStr)
	if err != nil {
		log.Fatal(err)
	}
	defer db.Close()

	query := "SELECT current_database(), current_user, version()"
	row := db.QueryRow(query)
```

```
	var dbName, user, version string
	if err := row.Scan(&dbName, &user, &version); err != nil {
		log.Fatal("Failed to scan row:", err)
	}

	fmt.Printf("Connected to TimescaleDB\nDatabase: %s\nUser: %s\nVersion: %s\n", dbName, user,
version)
}
```

Set your TimescaleDB URI as an environment variable:

```
export TIMESCALE_URI=postgresql://user:password@host:port/database
```

To execute the script, open the terminal or command prompt and navigate to the directory where `main.go`. Once in the correct directory, run the script with the command

```
go run main.go
```

If successful, you'll see output like:

```
Connected to TimescaleDB
Database: elestio
User: postgres
Version: PostgreSQL 14.13 (Debian 14.13-1.pgdg120+1) on x86_64-pc-linux-gnu, compiled by gcc
(Debian 12.2.0-14) 12.2.0, 64-bit
```

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